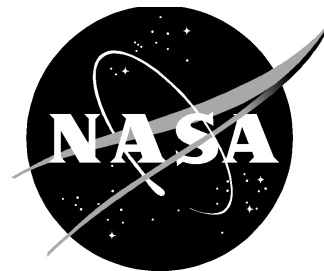


NewsRelease



National Aeronautics and
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Langley Research Center
Hampton, Virginia 23681-2199

Bill Uher
(757) 864-3189, (757)-344-6811 cell
w.c.uher@larc.nasa.gov

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NOTE TO EDITORS:

MISSE-2 EXPOSES MATERIALS TO HARSH SPACE ENVIRONMENT Astronauts at NASA Langley Research Center to Examine Hardware

The only way to test how materials will perform in space is to test them in space. Laboratories can only simulate one or two space environmental factors at a time.

When Shuttle Mission STS-114 lifts off from the Kennedy Space Center in early 2003, it will carry the MISSE-2 payload. The Materials International Space Station Experiment consists of two "suitcases" full of materials that will undergo a three-year exposure test in space. The cases, called Passive Experiment Containers (PECs), will be clamped to the exterior of the International Space Station by astronauts Stephen Robinson and Soichi Noguchi during a spacewalk.

Media Opportunity:

STS-114 Mission Commander, Eileen Collins and MISSE Chief Scientist, Dr. William Kinard will be available to answer questions on Monday, June 10 at 1:00 p.m., at NASA Langley Research Center, Hampton, Va.

There will also be a photo op to see the Mission Specialists working in the clean room.

To arrange access, please call Bill Uher in the NASA Langley Research Center Office of Public Affairs: 757-864-3189

Space is an extremely hazardous vacuum filled with lethal radiation, storms of micrometeoroids, extreme variations of temperature, and all manner of man-made debris. Any one or a combination of these can damage or even destroy unshielded satellites and other spacecraft.

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More than 700 samples will be exposed during the three-year-long project. The samples include ultra-light membranes, composites, ceramics, polymers, coatings and radiation shielding. In addition, components such as switches, solar cells, sensors, and mirrors will be evaluated for durability and survivability. Approximately one-million plant seeds are also being flown in specially-designed containers.

A similar experiment, the Long Duration Exposure Facility (LDEF), spent 69 months in low-Earth orbit before being retrieved in 1990. Researchers learned much from that experiment and began to develop new materials that could withstand the hostile space environment.

Another materials experiment flew on the Mir space station in 1996-97 as part of the Mir Environmental Effects Payload (MEEP). The current project will test materials developed as a result of the LDEF and MEEP programs.

After the three-year exposure time, Mission Specialists will seal the PECs, remove them from the Space Station and bring them back to earth on the shuttle. They will be shipped back to NASA Langley Research Center for examination and study.

NASA's Langley Research Center in Hampton, Virginia, leads the MISSE project and is working closely with other NASA Centers, the Department of Defense, and several aerospace and technology companies.